

Fun with Food! :) Safeway Tectonics

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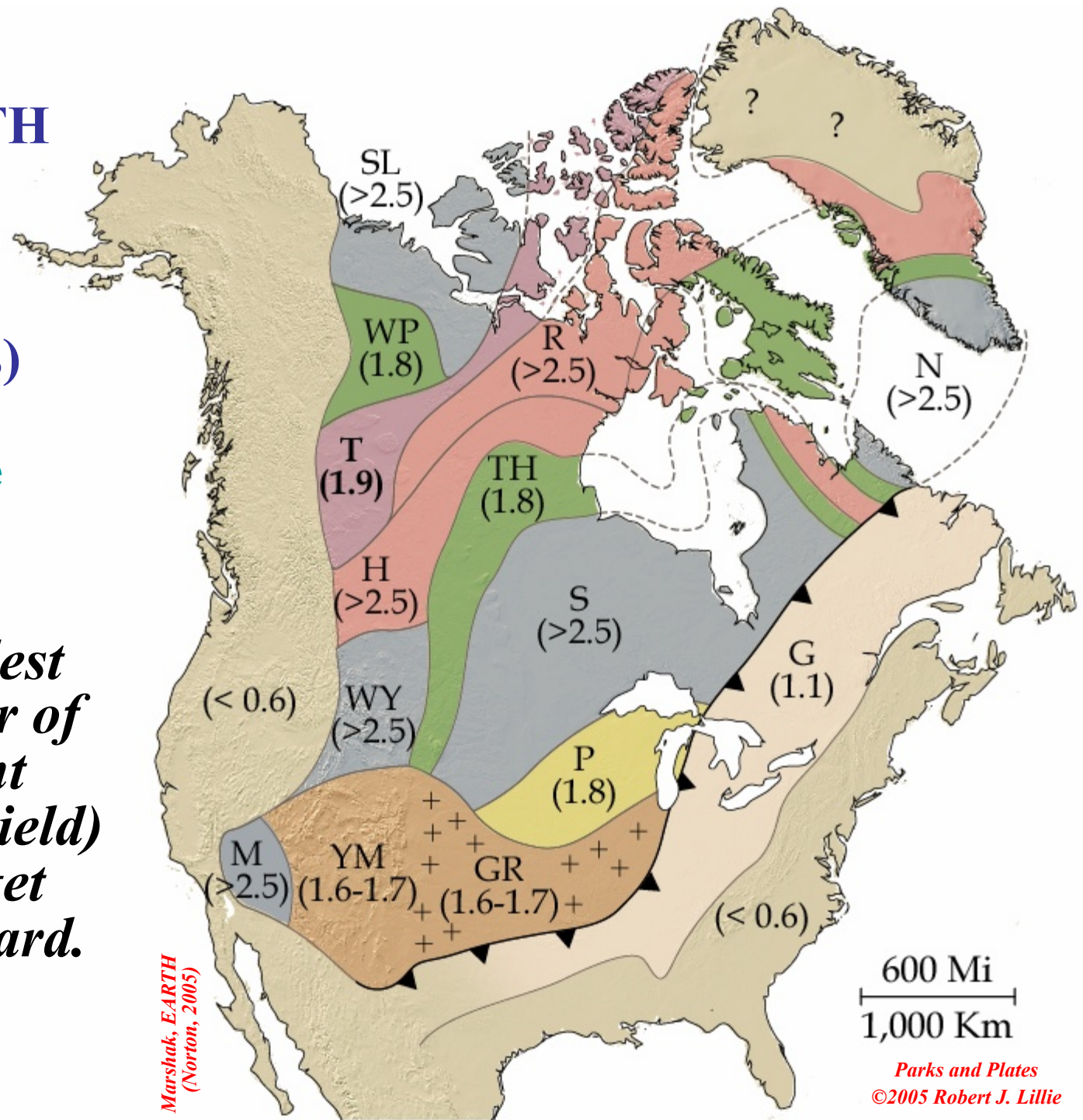
www.robertjlillie.com



AGE OF NORTH AMERICAN BASEMENT ROCKS (Billions Years)

What's the
Pattern?

*Rocks are oldest
near the center of
the continent
(continental shield)
and tend to get
younger outward.*

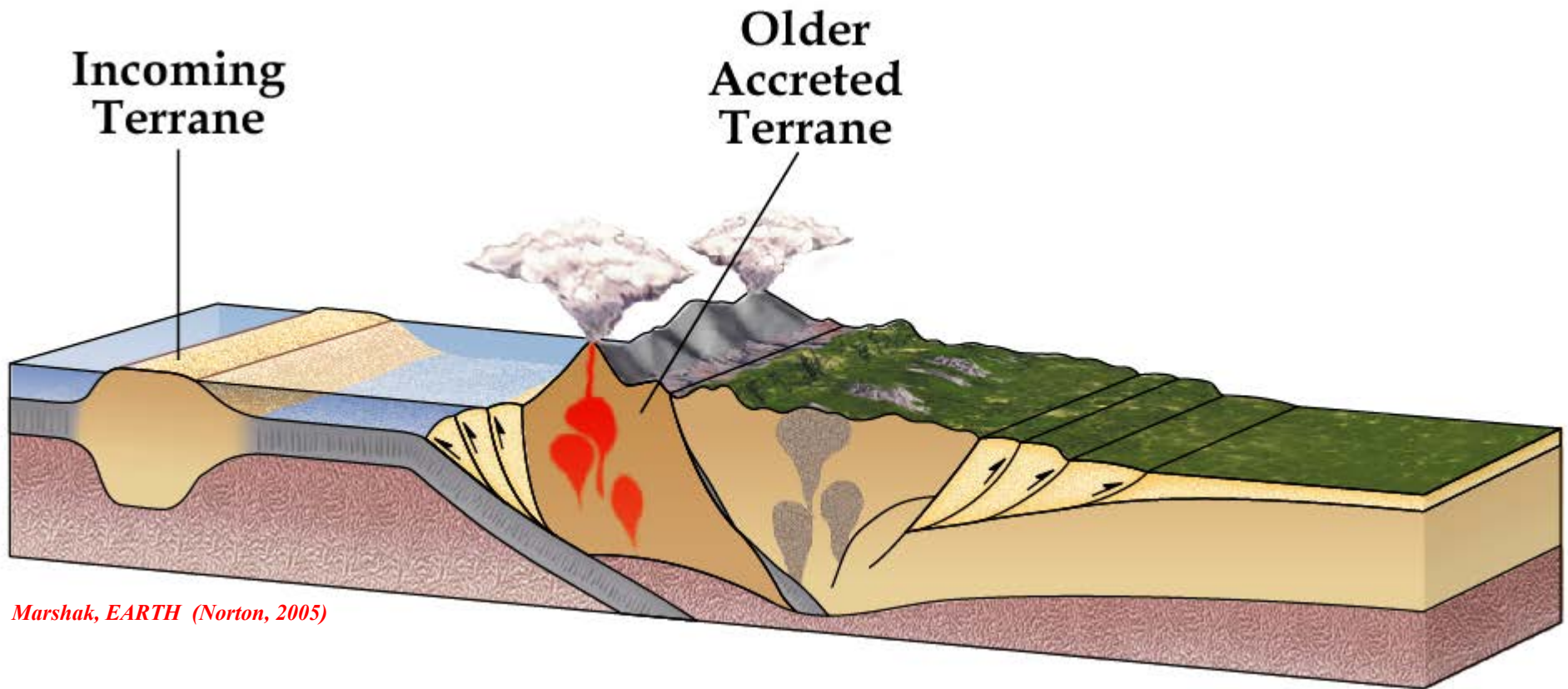


600 Mi
1,000 Km

*Parks and Plates
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Terrane Accretion

A TERRANE consists of crust that is too thick and buoyant to subduct. The continent grows outward as terranes come crashing in.



Marshak, EARTH (Norton, 2005)

Safeway Terrane Accretion ☺

**Forth
Terrane**

Third Terrane

**Second
Terrane**

Ocean Plate

First Terrane

**North American
Plate**

**Second
Terrane**

First Terrane



Ocean Plate



Ocean Plate

Third Terrane



Ocean Plate



Fourth
Terrane



Ocean Plate



Ocean
Plate

Fourth
Terrane

Third
Terrane

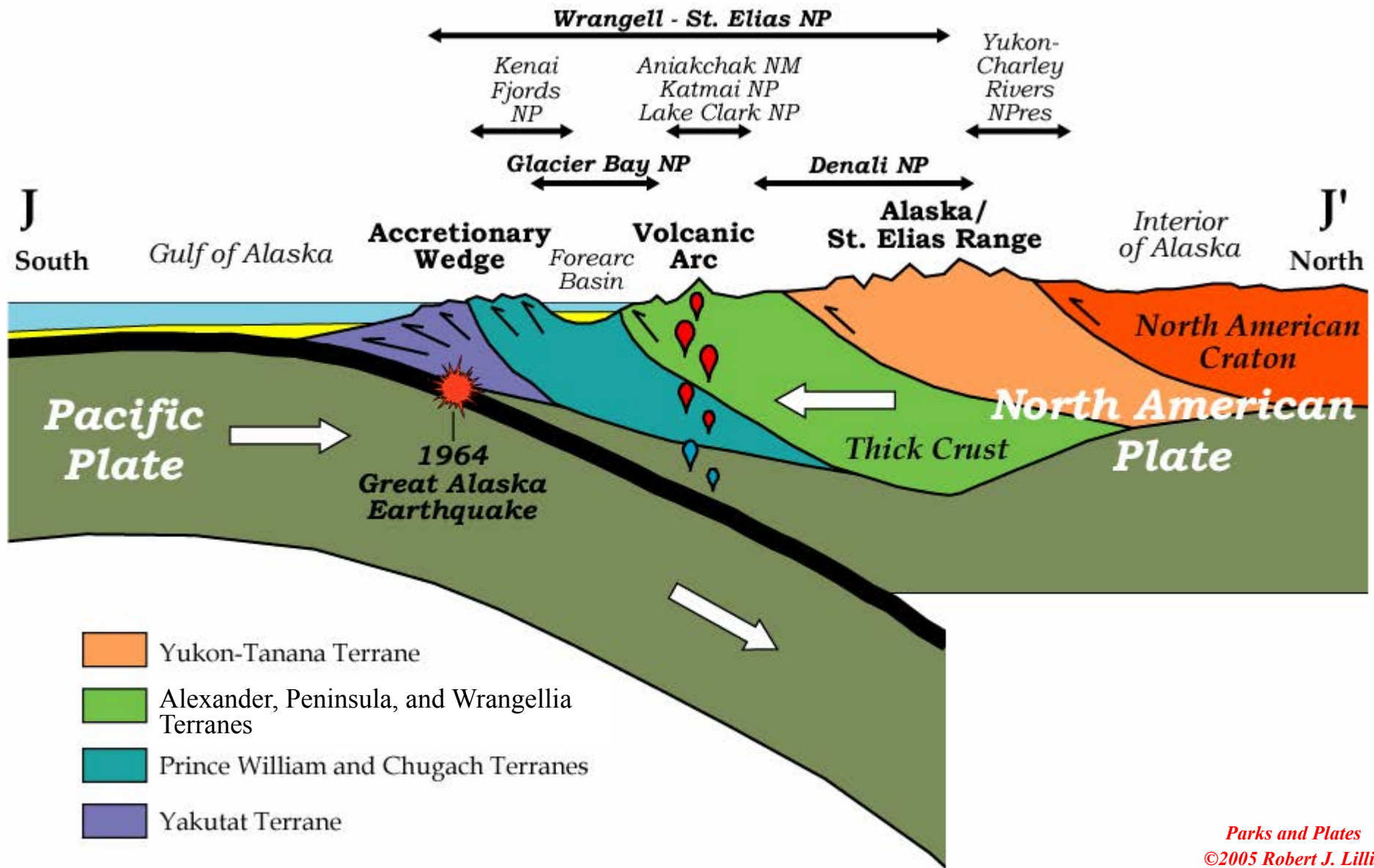
Second
Terrane

First
Terrane

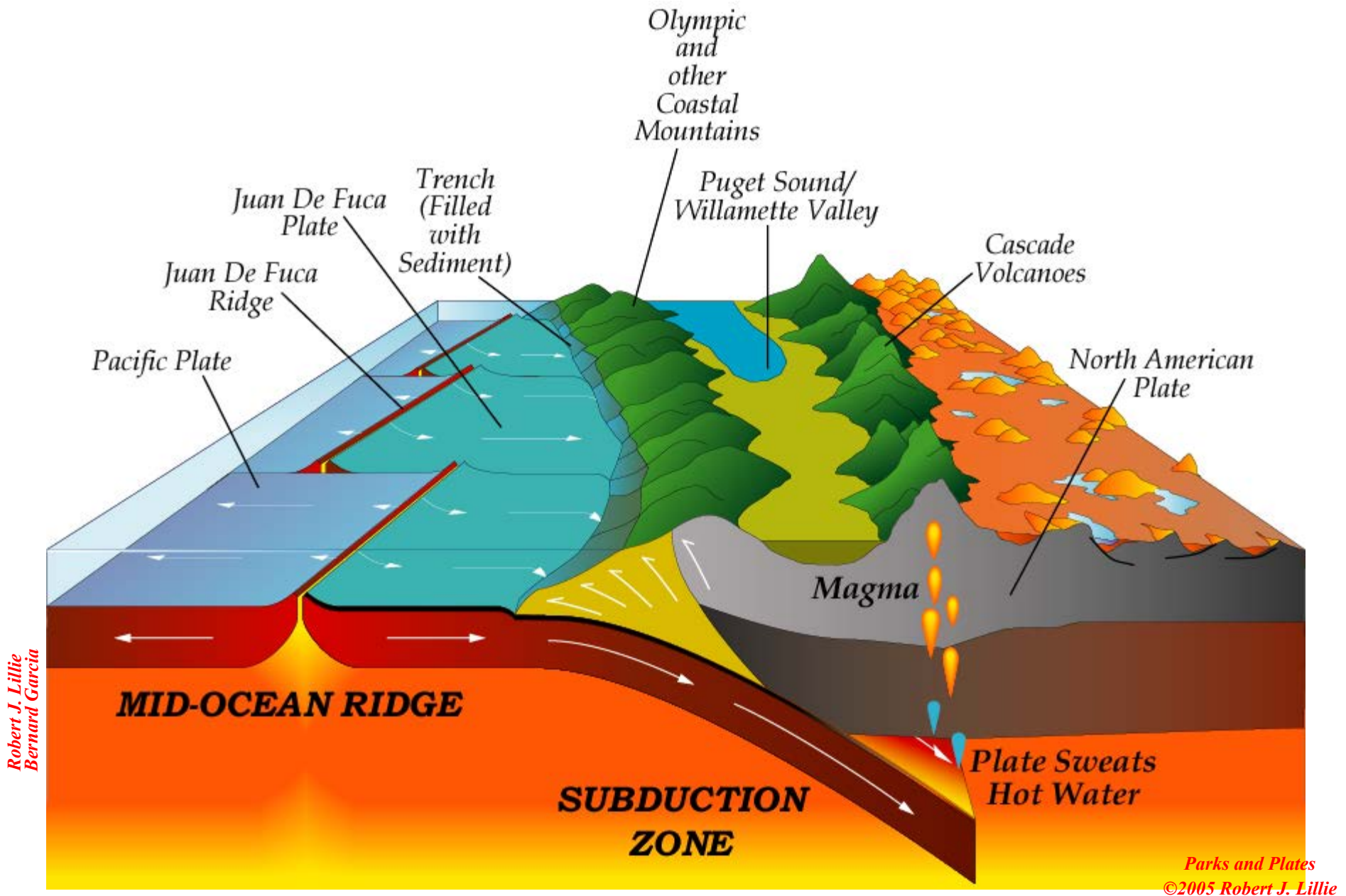
North American
plate

Terrane Accretion – Southern Alaska

National Parks in Alaska encompass many different accreted terranes.



The Cascadia Subduction Zone is just the latest episode of the Pacific Northwest building outward by Terrane Accretion.



*Coastline
150 Million
Years Ago*

*Most of Oregon and
Washington has been
added to the edge of the
continent in the past 150
million years*

*Material added
since then by
Subduction and
Terrane Accretion*

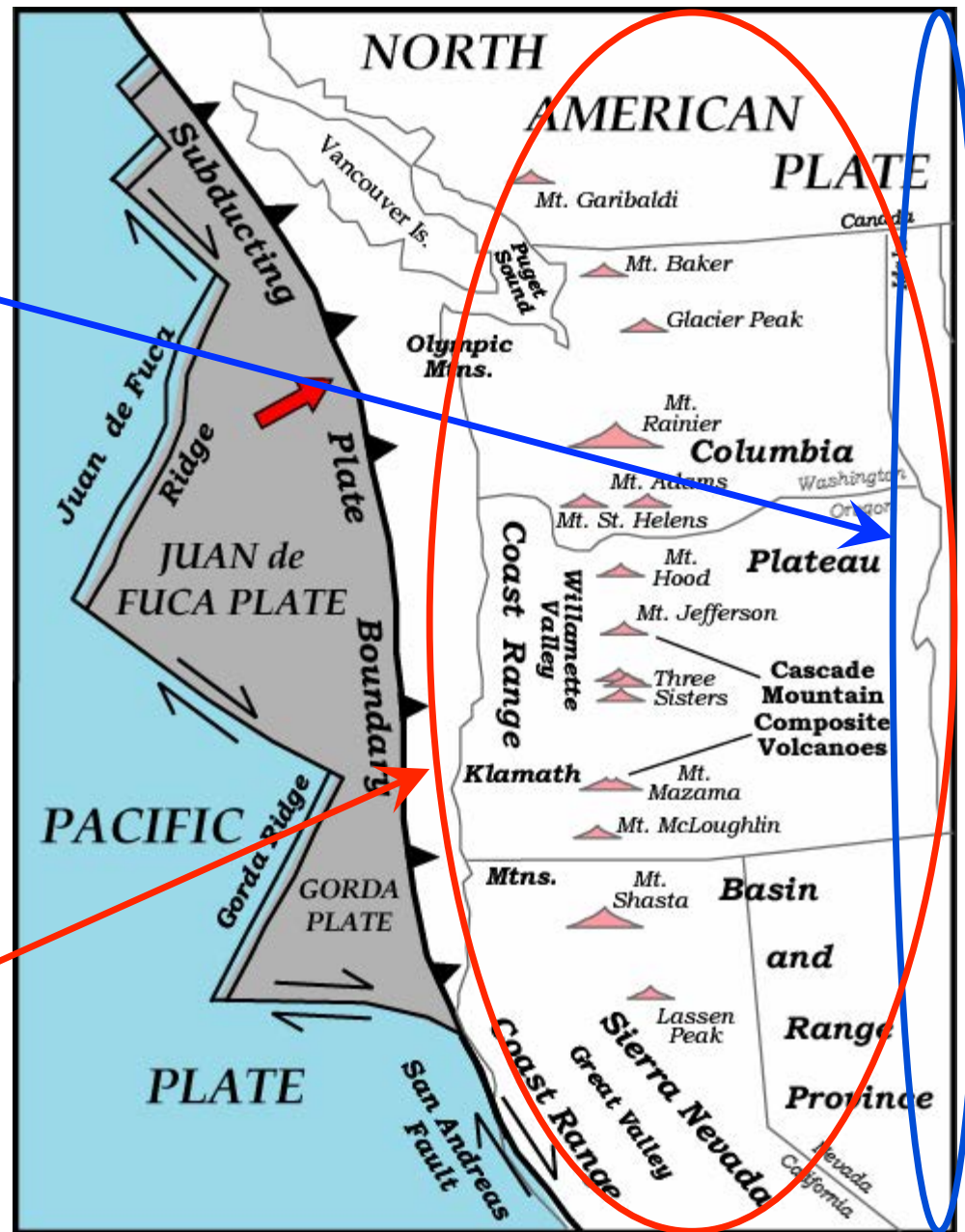
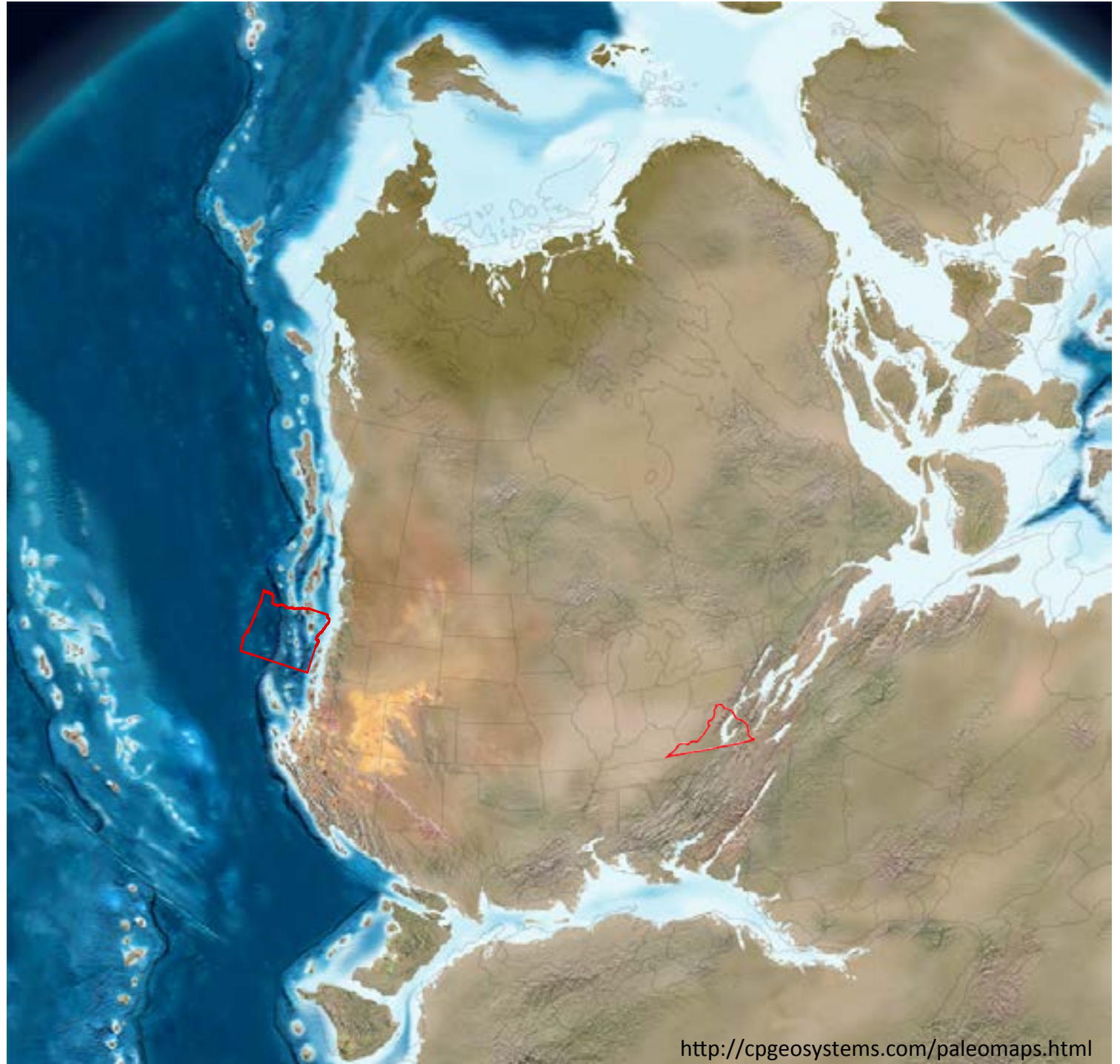


Plate Boundaries: Divergent // Convergent < Transform //

Jurassic

195
Million Years Ago

Ron Blakey
Northern Arizona
University

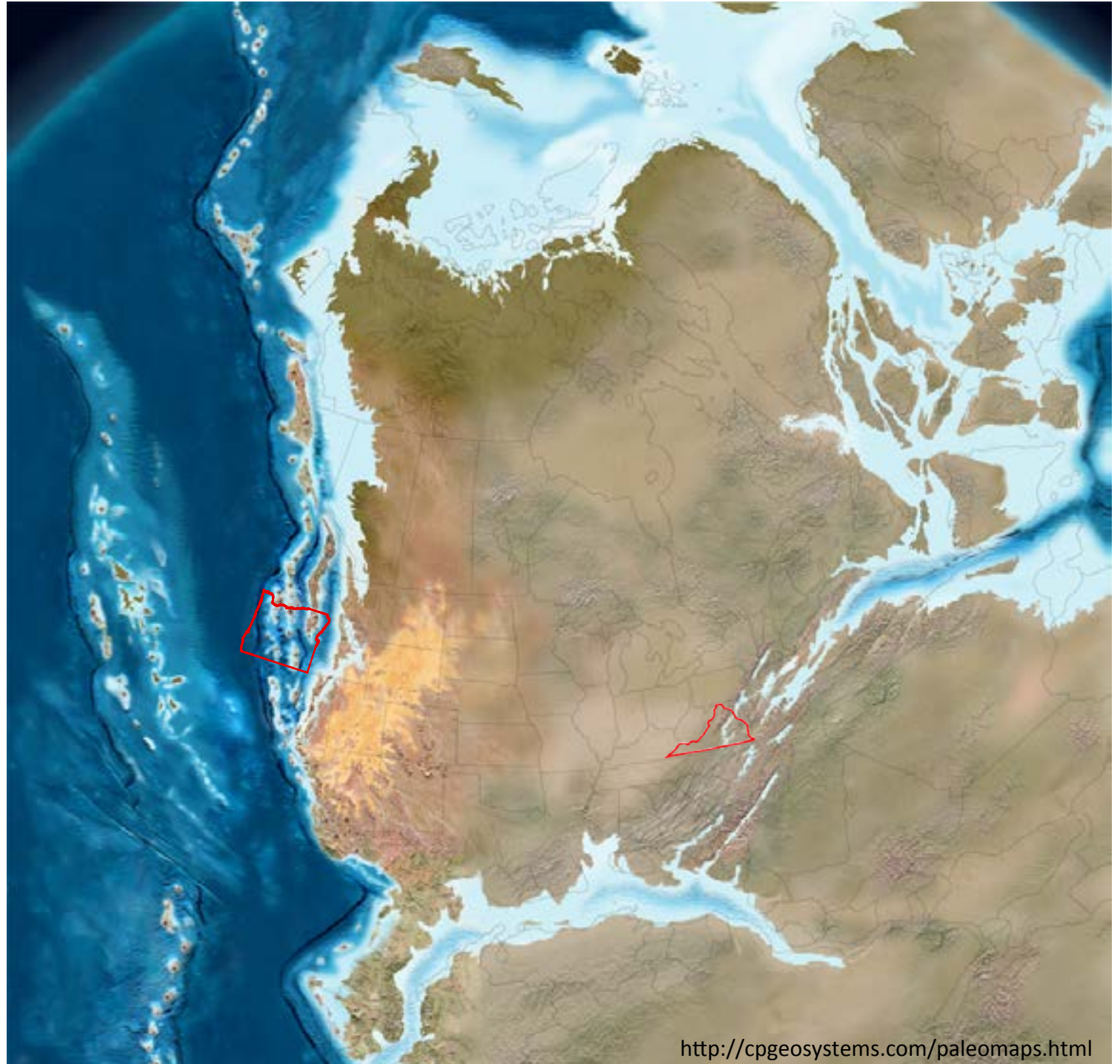


<http://cpgeosystems.com/paleomaps.html>

Jurassic

180
Million Years Ago

Ron Blakey
Northern Arizona
University

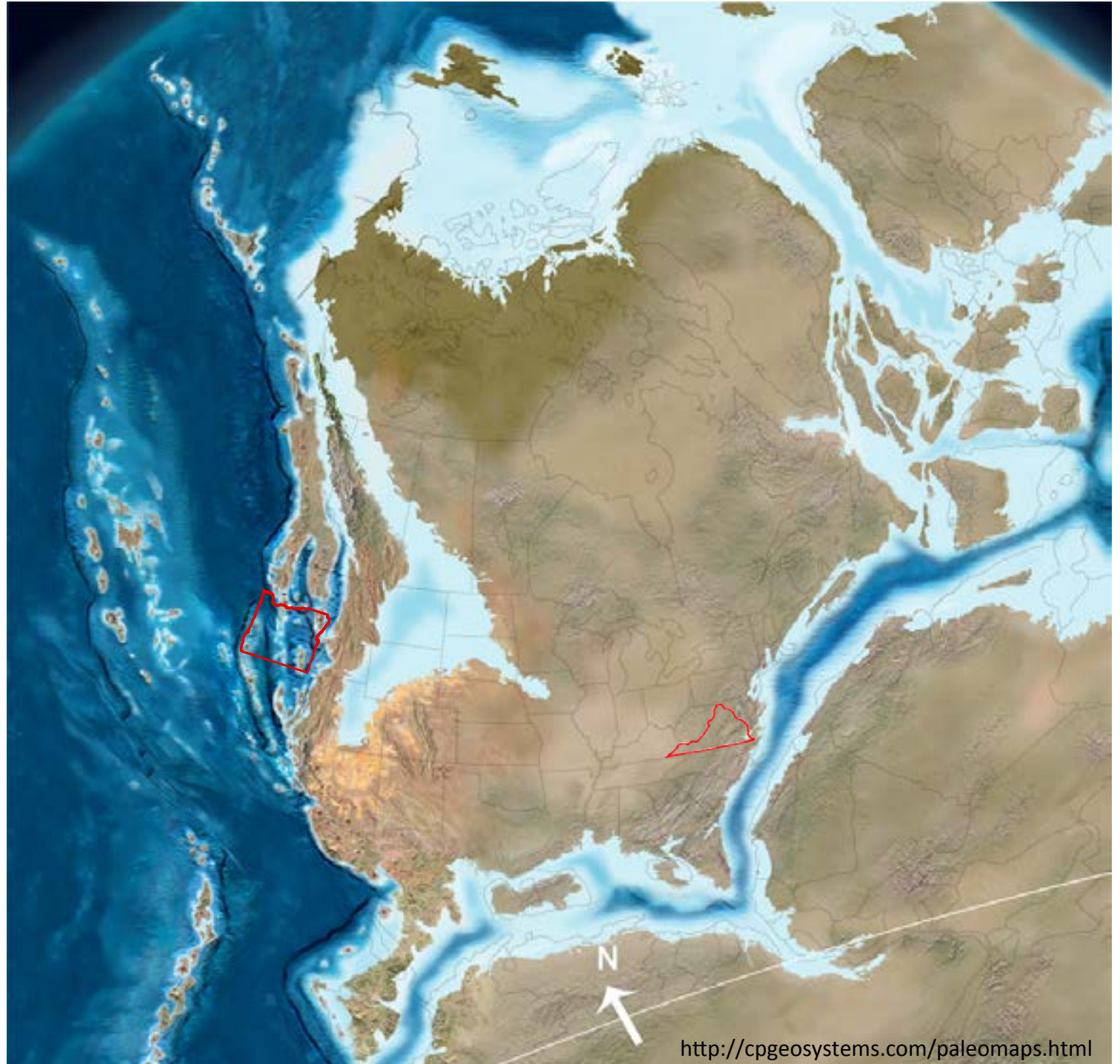


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Jurassic

170
Million Years Ago

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Northern Arizona
University



Jurassic

150
Million Years Ago

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Northern Arizona
University



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Cretaceous

140
Million Years Ago

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Cretaceous

130
Million Years Ago

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Cretaceous

115
Million Years Ago

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Eocene

50
Million Years Ago

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Eocene

40
Million Years Ago

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Oligocene

25
Million Years Ago

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Miocene

15
Million Years Ago

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Miocene

8

Million Years Ago

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Pliocene

3

Million Years Ago

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Holocene

12,500
Years Ago

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Now

**Present
Day**

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